BOOK REVIEWS

ALAN LAW

Mathematical Olympiads: Problems and Solutions from Around the World 1998-1999,
edited by Titu Andreescu and Zuming Feng,
published by the Mathematical Association of America, 1999,
Reviewed by Christopher G. Small, University of Waterloo, Waterloo, Ontario.

This book represents a continuation of the book Mathematical Contests 1997-1998: Olympiad Problems and Solutions from around the World. The authors have collected olympiad problems from the national contests of 18 different countries (including Canada), together with seven regional contests from 1998 and the national contests of 22 countries and eight regional contests from 1999. Problems from 1998 are published with solutions, but solutions for 1999 problems are not included. The volume comes with a brief glossary of basic mathematical identities and definitions, and an index of problems classified lexicographically by subject area, country of origin, and year. Both problems and solutions are presented with a unified notation.

There are many reasons why people involved in mathematics contests should want a book of this kind. Having schmoozed at the IMO several times, I have found that the task of gathering national contest problems is not easy. Hauling my mathematical loot back home, I am forced to contemplate my linguistic inadequacies. (Perhaps you know that "cung" is Vietnamese for "arc," but I did not. Unfortunately, more or less knowing — as I do now — that "cung" means "arc" provides no assistance with the host of other words I need to know.) Fortunately, many countries translate their problems into English, as they know full well that their English is better than our Vietnamese/Farsi/whatever. However, the translation process is often imperfect. Consider the following recent problem translated from a contest in a Spanish-speaking country:

A sequence is defined as \( a_1 = 3, y a_{n+1} = a_n + a_n^2. \) Determine the last two digits of \( a_{2000}. \)

A student could be forgiven for asking what the value of \( y \) is. Occasionally, the translation into English suffers the dubious honour of being too good. For example, another recent contest used the English word "wherefrom," which is perfectly good English, but should probably be avoided in contest problems in our postliterate world.

On reading through the problem collections and the various addenda, I had only one criticism. The authors have chosen to continue the common
tendency to describe convex functions as "concave up" and concave functions as "concave down." If it is unnecessary for us to use such terms in research papers, it is surely also unnecessary in the school system.

Anyway, hats off to Titu Andreescu and Zuming Feng for putting together this interesting collection of the best from around the world. The problems are written in plain and simple English without any of the translation effects that I have mentioned above. From each volume of problems we can celebrate the vigour of mathematical culture in many different countries. Now where's that Russian problem I was working on ... ?

Another Maze in Three Dimensions

Izador Hafner

Here is another maze, this time, on a dodecahedron, given as an unfolded plane plan. Can you solve it?

Izidor Hafner

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